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TRANSLATIONS ON TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 9

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INTERNATIONAL TELECOMMUNICATIONS MEETING OPENS IN SINGAPORE

Singapore Domestic Service in English 1130 GMT 19 Jul 77 BK

[Text] The minister of state for communications, Mr Ong Teng Cheong, this
morning opened the 3-day meeting of international telecommunication bodies,
which have expressed interest in investing in the $116 billion Philippines-
Singapore submarine cable project.

Twenty-four delegates representing telecommunications administrations from
five ASEAN countries, Australia, Japan and Britain are attending the meet-
ing. They will discuss details of cable capacity and investment potential
in the project.

CSO: 5500

BRIEFS

CSSR-ALGERIA COOPERATION AGREEMENT--Prague, 22 Jul CETEKA--A Czechoslovak-Algerian Post and Telecommunications Cooperation Agreement was signed here today. It proceeds from the international provisions of the World Postal Convention and the International Telecommunication Convention and concerns extension of mutual operations, exchange of experiences concerning operations and training of personnel. The signatories were the telecommunications ministers of the two countries, Vlastimil Chalupa of Czechoslovakia and Mohamed Zerguini of Algeria. [Text] [Prague CTK in English 1900 GMT 22 Jul 77 LD]

SRV-GDR BROADCASTING PROTOCOL--Hanoi VNA, 22 Jul--A protocol on cooperation for 1977-1978 has been signed here between the Vietnam Commission for Radio Broadcasting and Television and the State Committee for Radio Broadcasting of the German Democratic Republic. Signatories were Tran Lam, chairman of the Vietnamese Commission, and Dieter Doering, GDR ambassador to Vietnam. [Text] [Hanoi VNA in English 0719 GMT 22 Jul 77 OW]

USSR, CANADA SIGN PROTOCOL--A protocol was signed in Moscow today on exchanges in the sphere of television and radio broadcasting between the USSR State Committee for Television and Radio Broadcasting and the Canadian Broadcasting Corporation (CBC) for 1977-78. A further expansion of exchanges of television and radio material about the life of the peoples of the USSR and Canada is envisaged in the spirit of the Helsinki Act. Special attention has been paid to materials devoted to the 60th anniversary of the October Revolution. The document was signed by Mamedov, first deputy chairman of the USSR State Committee for Television and Radio Broadcasting, and Hoggs, vice president of CBC. [Text] [Moscow Domestic Service in Russian 1600 GMT 27 Jul 77 LD]

CUBA, ANGOLA TELEPHONE COMMUNICATION--Luanda--Direct telephone communication between the Republics of Cuba and Angola was established yesterday afternoon. Maj Bento Ribeiro, Angolan secretary of state for communications, and his Cuban counterpart Pedro Guelmes had a telephonic conversation with which they inaugurated direct telephone communications between the two countries. During the talk between the two countries' communications ministers, mention was made of the historic significance of 26 July, the date when the direct circuit was established between Havana and Luanda. [Text] [Havana Domestic Service in Spanish 1600 GMT 27 Jul 77 FL]

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GDR-VIETNAM EXPAND RADIO LINKS--Hanoi--The GDR and Vietnam will deepen their cooperation in the field of radio. This is provided for in a protocol for 1977 and 1978 which has been signed in Hanoi. Among other things, the exchange of programs is to be expanded. The GDR will also support Vietnam in the training of specialists and the technical equipping of radio. [Text] [East Berlin ADN International Service in German 1716 GMT 25 Jul 77 LD]

CSO: 5500

LAYING OF UNDERSEA CABLE BETWEEN JAPAN-TAIWAN APPROVED

Tokyo KYODO in English 0543 GMT 22 Jul 77 OW

[Text] Tokyo, 22 Jul KYODO--The Posts and Telecommunications Ministry
Thursday permitted the Kokusai Denshin Denwa Company (KDD) to establish
a wholly owned subsidiary for laying of an undersea telecommunications
cable between Japan and Taiwan.

The government gave the go-ahead after a lengthy consideration on the pro-
ject's possible adverse effects on Japan-China relations.

The subsidiary, tentatively called Japan-Asia Undersea Cable Company, will
be capitalized at 80 million yen. Its first president will be Motoichi
Masuda, former vice president of KDD.

The undersea cable was conceived several years ago to meet increasing de-
mand for telecommunications services between the two countries.

The government had pondered the matter because the cable was to go over the
Chinese continental shelf.

The KDD subsidiary plans to lay the 600-kilometer cable between Gushigami
Village on the southeastern part of Okinawa mainland and the northern tip
of Taiwan by the end of 1979.

The construction cost of about 5 billion yen will be equally shared by the
Japanese firm and the International Telecommunications Development Corpora-
tion of Taiwan.

The cable will be leased to KDD upon completion.

At present, KDD is utilizing the telecommunications satellite over the Pacific
of the International Telecommunications Satellite Consortium (INTELSAT) for
its Japan-Taiwan services.

Telephone calls between Japan and Taiwan now number some 136,000 a month and telegrams about 85,000. The Japan-Taiwan Service is highly lucrative in Asia for KDD, second only to its South Korea service.

With China, KDD has only 5,600 phone calls and 2,500 telegrams a month.

CSO: 5500

COMMUNICATIONS MINISTRY REVIEWS FIVE-YEAR PLANS

Bombay THE TIMES OF INDIA in English 19 Jul 77 p 7 BK

[Text] New Delhi, July 18--The Ministry of Communications has started
preparations for a larger effort to implement planned projects during the
last two years of the current five-year plan than what was achieved dur-
ing the first three years.

Against an expenditure of over Rs. 38 crores during the first three years,
the ministry will spend over Rs. 54 crores during the rest of the plan
period, according to an official release.

The plan projects under the ministry relate mainly to Overseas Communica-
tions Service [OCS], Indian telephone industries, Hindustan teleprinters
and a wireless planning and co-ordination and monitoring organisation.

This is disclosed in the annual report for 1976-77 of the ministry.
Referring to the growth of the OCS, the report notes a significant growth
in international telecommunication traffic. As a result, the gross
revenue during the year is estimated to increase to more than Rs. 28
crores from Rs. 23 crores in 1975-76.

With the inauguration of the country's second earth station in Dehra Dun,
the report says that plans have been prepared for establishing direct
satellite links with 36 of the 39 other countries which are linked to the
Indian Ocean satellite.

Direct Automatir International Telex Service is envisaged this year. For
the purpose, a sophisticated equipment called Stored Programme Control
Exchange will be set up in Bombay at an estimated cost of over Rs. 4 crores.

Referring to the Indo-Soviet Troposcatter Link across the Himalayas, the
report says that the link would also facilitate the handling of traffic
from the Soviet Union and Eastern Europe to countries in Southeast Asia
through India. The estimated cost of the system at the Indian end is
Rs. 3.9 crores. It is likely to be commissioned by the end of 1979.

CSO: 5500

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BRIEFS

INTERNATIONAL COMMUNICATIONS SERVICES--Direct automatic international telex
service is expected to come into operation in the country this year. Sophis-
ticated equipment has been installed in Bombay for this purpose at an esti-
mated cost of rupees 40 million. The equipment, which has a capacity of
450 telex trunk lines, is now undergoing tests. Similar equipment will also
be set up in New Delhi. This has been stated in the annual report of the
Ministry of Communications for 1976-77. The government is considering the
setting up of a submarine cable between Madres and Penano. It will provide
a link with several South Asian countries and access to the American and
Australian continents via undersea cables in the Pacific Ocean. [Text]
[Delhi Domestic Service in English 0830 GMT 17 Jul 77 BK]

TV RELAY STATION--Mussoorie will have a television relay center by next
month and another one is expected to be commissioned at Kanpur by the end
of the Fifth Plan. This was stated by the Minister for Information and
Broadcasting Mr Advani in the Lok Sabha, on 20 July. [Text] [Delhi
Domestic Service in English 1230 GMT 20 Jul 77 BK]

MADRAS FM STATION--For the first time in the country frequency modulation
broadcasting was introduced from AIR [All-India Radio] Madras today. The
transmitter installed at Madras for the purpose has a range of about
65 kilometers. The start of the new service coincides with the golden
jubilee of broadcasting in India. There are plans to set up similar
transmitters at other major metropolitan centers. The service is likely
to be introduced in Bombay and Calcutta in 1978-1979. [Delhi Domestic
Service in English 1530 GMT 23 Jul 77 BK]

CSO: 5500

BRIEFS

LASER TRANSCEIVER--The Technical Research and Development Institute is said
to be planning research and trial fabrication of a laser transceiver during
JFY 1978. Research on laser telecommunications applications is being
advanced via in-house research, and, as general application to data trans-
mission has already been accomplished, this would seem to be research and
trial fabrication for an envisioned specific set of operating conditions
such as, for example, communication between ships while under way rather
than research on the laser transceiver proper. In such case, to assure stable
communications, the transmitter and receiver will have to be oriented directly
toward each other, and research and trial fabrication of stabilizing equip-
ment employing a gyro or some such will probably ensue. /Tokyo KOKUBO
KEIZAI TSUSHIN in Japanese 19 Jul 77 p 6/

CSO: 5500

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PACIFIC OCEANOGRAPHIC RESEARCH PROJECT COMPLETED

Peking NCNA in English 0725 GMT 20 Jul 77 OW

[Text] Peking, July 20, 1977 (HSINHUA)--China recently completed a new project of oceanological research in the Pacific that covered marine hydrology, meteorology, chemistry, gravity and magnetics as well as seabed geology and topography.

The first anchoring test and an efficiency test for ocean telecommunication equipment were conducted in the Pacific.

This research corrected a number of inaccurate markings in sea maps and provided data for ocean magnetic fields and navigation and ocean telecommunications.

This research was carried out by the "Hsiangyanchung No 5" and "Hsiangyanghung No. 12" and brought better results than China's first oceanological research early last year. It was a longer trip and more time was spent. It improved on previous research for many items, some up to advanced world levels.

Workers, cadres and technical personnel pooled their efforts in this two-month research project. Sailing across the Equator and between the eastern and western hemispheres, the vessels conducted research in complicated sea areas for which there is only limited navigation data.

This research was organized by the State Oceanography Bureau.

CSO: 5500

BRIEFS

TV PROGRAMS VIA SATELLITE--The minister attached to the Prime Minister's Office on 19 July participated in a first-day demonstration of the transmission of television programs via satellite from Indonesia, which was presented at the Oriental Hotel. That transmission program was jointly organized by the Mass Communications Organization of Thailand and the Hughes Aircraft System International Company of the United States. The satellite communication system will also benefit the telephone system and will be computerized and also will benefit military telecommunications. [Bangkok Domestic Service in English 0000 GMT 21 Jul 77 BK]

CSO: 5500

BRIEFS

NEW TV TRANSMITTER--A new television transmitter at Cerna Hora in the Krkonose Mountains, called the "Transmitter of Czechoslovak-Polish Friendship," will be in operation as of 15 December. The transmitter, which is being built in cooperation with the Polish enterprises Unitra and Budimex, will contribute to a markedly improved quality of reception of the first and second TV channels in the Krkonose area and other parts of the east and central Bohemian region. The transmitter will be 78 meters high. [Prague ZEMEDELSKE NOVINY in Czech 26 Jul 77 p 6 AU]

CSO: 5500

BRIEFS

NEW TV-RADIO CENTER--A new television transmitter for South Bohemia was
handed over for service at an inauguration ceremony today. The new radio
communications center in the Blansky Les Mountains on the Klet Peak at an
altitude of 1,083 meters above sea level was built by the Ceske Budejovice
Pozemni Stavby, the Ostrava Foundry Assembly and the Tesla Hloubetin at
a cost of over Kcs 100 million. The inhabitants of the South Bohemian
region from today on will enjoy better quality reception of the second
channel and the color programs of Czechoslovak Television, as well as the
ultrashortwave broadcasts of Czechoslovak Radio. [LD--A CTK English
version of this item, transmitted at 1732 GMT on 28 July, adds that the
steel pole of the transmitter is 172 meters high and weighs over 300 tons.]
[Text] [Prague Domestic Service in Czech 1730 GMT 28 Jul 77 LD]

CSO: 5500

GOALS FOR TELECOMMUNICATIONS, COMPUTERS DESCRIBED

Warsaw ZOLNIERZ WOLNOSCI in Polish 6 Jun 77 p 4

[Article by Stanislaw Lewicki: "Future of Computers and Telecommunications"]

[Text] Computer infrastructure problems play a very essential role in our program for multilateral social and economic development. The expansion of computer and telecommunication systems will facilitate the control of development processes and improve the functioning of the administrative apparatus. In the modern world, it is not possible, of course, to manage individual sectors of the economy properly without a developed system to convey and process information. Experts estimate that, today, obtaining economic, scientific and technical information absorbs 40 percent of the total work time in production management centers and in public administration institutions. This is why communications ranks highly in our country.

Reducing the Gap

The extensive program to develop telecommunications in Poland was adopted at the Sixth PZPR Congress. Above all, the prime concern was the marked expansion of telecommunications with regard to its technical as well as organizational aspects. Therefore, it became necessary to make up for the underdevelopment of the 1960's in this important field. In its resolutions, the Seventh PZPR Congress emphasized even more rapid progress in the fields of telecommunications and computers. Today, we can safely speak of the qualitative improvements in the entire communications system.

Because of the program to expand telecommunications and the tele-electronic industry during the 1971-1980 period, the investment outlays for the Ministry of Communications have been increased considerably. In the previous 5-year period, these investments were three times greater than in the 1960's. In the current 5-year period, investment outlays are 75 percent greater. Due to this outlay, 2 years ago, the tele-electronic industry began producing modern automatic switching centers. The production of goods by this industry received the highest national priority. The automation of international and long-distance telephone calls was accomplished

on an extensive scale. Presently, we have approximately 500 such automatic systems, including 33 international ones and over 220 intervoivodship ones. This year the automation of telephone traffic will improve further, when the Pentaconta transistorized automatic-switching centers become operational in Warsaw, Krakow, Poznan and Gdansk. In coming years, the Pentaconta automatic telephone-switching centers also will be installed in Katowice, Wroclaw, Lublin and so forth.

An important achievement of the Ministry of Communications was the final conclusion in 1975 of the plan to bring telephone service to village administrators. This year the installation of telex stations in district offices has been completed. Without doubt, providing Polish villages with a modern telecommunications system is an important component in improving the administrative structure. Also, the significance of efficient communications for aggregate, positive, civilizing and cultural changes should not be underestimated. Not too long ago, complaints about the postal service were very widespread. However, it should be acknowledged that with regard to this a great deal of change has occurred for the good. No doubt, of great significance here was the introduction of night air flights for postal use ("Postlot"). The partial motorization of the postal service in the rural areas was the next step on the road to improving the communication system on a national scale. Over the last few years, the average annual growth rate for postal and telecommunication services has been 12 percent.

The Ministry of Communications has achieved significant results during the 1970's with regard to expanding the radio and television transmission base. A ground-satellite communication station has been built; it enables the transmission of TV programs and is also used for telecommunication purposes. A radio transmission station, having the highest antenna mast in the world, has been constructed in Gabin. Color television is becoming more widespread. Poland is a subscriber to the Intersputnik satellite communication system.

A shortcoming, however, is the inability to satisfy demand for private-telephone service. While it is true that in the 1971-1975 period 110,000 more telephones were installed than in the previous 5-year period, the demand for telephones also increased. In 1976 there were over 100,000 new telephone subscribers. Nevertheless, however, over 600,000 individuals, not counting state institutions and cooperatives, are waiting for telephone installations. The situation in which every-other residence is equipped with a telephone can be achieved only by the end of the 1990's.

It should be emphasized here that in Poland telecommunications is an income branch of the overall national economy. The amount of accumulation exceeds the amount of investment expenditures. Each zloty invested in the communication system returns almost a tenfold profit. Revenues from tariffs, subscribers and other types of services offset expenditures (even with an assured surplus) for the communication system.

Needs and Necessities

What stands in the way of accelerating the availability of telephone
service so that, let us say, in 10 years there will be 450-500 telephones
per 1,000 inhabitants in Poland? The efficient acceleration of telephone
service is still limited by the incomplete production capabilities of the
telephone manufacturing industry. Also, the needs of telecommunications,
as a whole, are much more extensive than indicated by the survey of tele-
phone service requirements taken by experts. Thus it is necessary to
increase significantly the number of so-called untypical cubic buildings
for communication centers. It is also necessary to construct 20,000 km
of new teletransmission lines, both cable and radio. In addition, it is
necessary to manufacture a tremendous amount of cables, teletransmission
equipment, telephones and so forth. The execution of such a program
would permit the creation of 200,000 multiservice telephone lines.

The Polish tele-electronic industry has a good reputation in world markets.
Already today, over 20 percent of our total production is designated for
exportation, augmenting our foreign exchange zlotys. In forecasting our
telecommunication requirements, the necessities of foreign trade should
also be remembered. Thus the imperative to increase investments in tele-
electronics and telephone service increases urgently.

During the 1970's we also expanded and modernized the large enterprises of
this branch such as Telkom-Teletra in Poznan, the Telephone Manufacturing
Plant in Radom, Telkom-Telwa in Bydgoszcz, and Telkom-ZWWT (Pentaconta
automatic-switching centers) and Telkom-12T in Warsaw. Advantageously
purchased licenses enabled the manufacture of many modern products such
as type E-10 electronic-switching centers, telephone number-dialing assem-
blies and minicomputer and telex equipment. Such institutions as the
Communication Institute, the Office of Communication Research and Plans,
the Postal Research and Development Center, and the Central Institute for
Planning and Management Organization are working constantly to extend
technical, technological and organizational progress in telecommunications.

Computers Serve the Economy

Four years ago a party-government commission was formed to consider matters
related to computers. It developed a plan to develop computer technology
and expand the computer industry, based on Poland's scientific and techno-
logical facilities. A project for the comprehensive application of com-
puters up to the 1990's was also instituted. By the mid-1970's, production
of computer equipment increased fourfold. Nevertheless, demand continues
to be large for this equipment.

A great achievement for Polish science was the development in 1975 of the
technology of production of magnetic-wire memories for computers. Posi-
tive results were also achieved in the application of computers to control
technological processes in various industrial, manufacturing branches.

An efficiently functioning data bank for the needs of the economy is an important task. Over a year ago, one of our experts in computerized-data centers correctly stated that the essence of providing information depends on the fact that, basically, prepared information does not exist to resolve every problem. Such information one must first obtain, process, separate and use in a specific manner. This is why data banks--the operation of which are necessary for the proper functioning of the decision process in public and economic administration--are so important. Worldwide, the phenomenon of computerization is growing geometrically. Experts estimate that by 1980 approximately 700,000 computers will be in operation all over the world.

Above all, the widespread use of computers serves telecommunications. Developed socialist societies, living in a highly industrialized country, must possess an extensive data and telecommunication system. This system encompasses various elements. Among those that we can name are institutes for statistics, propagation and forecasting; centers for technical and scientific information; institutions for education and upbringing and mass communication media. This entire group serves to rationally control the collective life of the nation as a whole.

To cope with this responsible task, in the current 5-year period we are investing the immense sum of 90 billion zlotys in the computer industry. Almost half of these outlays is designated for computer installations. Computers and cybernetics should then contribute decisively to improving various aspects of manufacturing and managing the economy. The expansion and modernization of the communication system will serve to improve communications extensively. Computers and telecommunications are closely interrelated.

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CSO: 5500

BRIEFS

CAMAGUEY COMMUNICATIONS IMPROVEMENTS--Construction of a new modern microwave network for telephone and color TV, construction of 28 km of telephone cables and the installation of 700 concrete posts are some of the most important tasks the Camguey telecommunications enterprise workers are undertaking in salute to the 24th anniversary of the attack on the Moncada barracks. The microwave network will benefit reception of the national networks of radios Progreso, Liberacion and Rebelde. Also it will provide the province with 24 new lines from the first stage while the installations for a direct dialing system with Havana City are created. The new telephone cables are replacing cables which date from the 1920's along 28 km. These old cables cause continuous interruptions during rains. The work being undertaken by Camaguey communications workers has the goal of also improving reception and transmission of TV color and black and white signals. [Havana Domestic Television Service in Spanish 0000 GMT 19 Jul 77 FL]

CIEGO DE AVILA RADIO--Since 1800 hours on Saturday the television viewers in Ciego de Avila Province are enjoying a notable improvement in quality of the TV image and audio. This was achieved by extending the antenna tower from 340 feet to 930 feet. Work is also being done in the province to improve the national radio network and to complete telephone channels to improve long-distance telephone calls. The work being done in four broadcast channels will enable the national radio network signals to be heard in the remotest areas of the country. [Havana Domestic Service in Spanish 1604 GMT 18 Jul 77 FL]

TELEVISION REPEATER--The new television repeater equipment installed in the municipality of Nuevitas in Camaguey has begun to operate satisfactorily, according to the technicians. It only took 72 hours to install the equipment, which allows color signals to be retransmitted and 15 days to build the tower. With this equipment the townspeople have noticed an improvement in the quality of TV channel 6. [Havana Domestic Service in Spanish 1404 GMT 21 Jul 77 FL]

CSO: 5500

KENYA TO MODERNIZE RADIO, TV NETWORK

Nairobi Domestic Service in English 1600 GMT 27 Jul 77 LD/EA

[Text] The minister for information and broadcasting, Mr Danile Mutinda, has said that the government intends to modernize the radio and television network as an important tool in educating the masses and toward stimulating national development. Mr Mutinda disclosed that his ministry will soon embark on negotiations with the treasury to acquire 10 million pounds for the modernization project.

The minister was speaking to the president of the Japanese Overseas Economic Cooperation Fund, Mr Keneo Shihara, who had called on him in his office today.

Mr Mutinda said that one of the plans in the modernization project will be the improvement of a high frequency volume, [as heard] instead of a medium wave which was faced with a lot of interruption.

The minister has added that an independent consultant has been appointed by the ministry to give advice on the possibility of injecting more local talent into the project by August this year. The minister was flanked by his permanent secretary, Mr Darius Mbela, and other officials of the ministry.

CSO: 5500

AMIN MEETS LEADER OF AMERICAN TELECOMMUNICATIONS TEAM

Kampala Domestic Service in English 1000 GMT 27 Jul 77 LD/EA

[Text] President Amin has received Mr (Jerry Sherlock), the head of the
American team working on the earth satellite station in Arua, at State
House Entebbe. Mr (Sherlock) briefed the field marshal on developments
on the project and the television antenna which has already been put up
at Kololo.

Present was the minister of foreign affairs, Col Juma Oris, and Mr Malik,
an engineer with the Uganda Broadcasting Corporation. Mr (Sherlock) told
Dr Amin that (?when he tested) the satellite in Arua, he could receive
colored films from television stations abroad in countries like Spain.
Dr Amin asked Mr (Sherlock) to convey his message of thanks to the American
Government and people for what they have done to assist Uganda in this
field.

At the meeting, the field marshal also declared that America has failed to
buy Uganda coffee here in Uganda. He expressed confidence that the Ameri-
cans will be able to buy the coffee here and transport it by road, air,
railway or by sea. He said he would be happy if America delivered to us
here in Uganda whatever goods we may buy from her.

Mr (Sherlock) assured the life-president that within a few months Uganda
television will be able to transmit and receive pictures in color to and
from abroad. He said Americans working on the project will always be
good representatives of Uganda. [as heard]

CSO: 5500

BRIEFS

RADUGA COMMUNICATIONS SATELLITE--Moscow--In accordance with the program for
the further development of systems of communications and television broad-
casting with the use of artificial earth satellites, a "Raduga" Communica-
tions Satellite with on-board retransmission equipment, intended for
ensuring continuous 24-hour telephone-telegraph radio-communication in the
centimetre wave range and the simultaneous transmission of color and black-
and-white programs of central television to the network of the "Orbita"
stations was launched in the Soviet Union on 24 July 1977. [Text] [Moscow
TASS International Service in Russian 1054 GMT 24 Jul 77 LD] Moscow, 24 Jul,
TASS--Under a program for the further development of communications and TV
transmission systems, involving the use of artificial earth satellites, a
communications satellite, Raduga, was launched in the Soviet Union on
24 July 1977. It has on board relay apparatus to ensure continuous round-
the-clock telephone and telegraph radio communication within a 1-centimetre
waveband and simultaneous transmission of colour and black-and-white program
of the central television to the Orbita network. Raduga has been put into
a nearly stationary circular orbit with the following initial parameters:
distance from the earth: 36,600 kilometers; period of revolution around
the earth: 24 hours 37 minutes; the orbit's inclination: 0.4 degrees.
Apart from improved multi-channel relay communications and television
apparatus, the satellite has a three-axle system for precise orientation
to the earth, a power supply system with a solar battery independently
keeping in alignment with the sun an orbit correction system, a thermal
regulation system, a radio telemetric system for transmitting back to earth
data on the work of the onboard systems, a radio system for precision
measurement of orbit elements and for controlling the satellite. The
apparatus aboard the Raduga is functioning normally, the Satellite's
International Registration Index is "stationary 2." [Text] [Moscow TASS
in English 1137 GMT 24 Jul 77 LD]

CSO: 5500

AUSTRIAN RADIO OCCUPIES TWO SHORT-WAVE FREQUENCIES

Occupation Aimed at Improving Reception

Vienna KURIER in German 26 Jul 77 p 20 AU

[Article by Gerhard Pistor: "Short-wave War: Austria Occupied Two
Frequencies for Better Reception"]

[Summary] The Austrian radio's Short-wave International Service has
annexed two frequencies that do not belong to it, that is, are outside
of the authorized meter bands, so as to make itself better heard. Accord-
ing to Alfred Macher, chief of the short-wave service, the Austrian Broad-
casting Company [ORF] has thus followed the example of Radio Peking, Radio
Tirana, BBC and Radio Nederlands in view of the hopelessly overburdened
regular frequencies.

"Instead of 11.855 MHZ (specifically for southwest Europe) the [ORF]
International Short-wave Service is now broadcasting from 1500 to 1700
hours [presumably Central European Time] on 12.025 MHZ, and instead of
6.155 MHZ in the 49 meter band (for all of Europe) on 5.925 MHZ from
2000 to 2300 hours." According to Macher, these broadcasts are offi-
cially labeled as trial programs. He pointed out that the ORF can only
protest through the Postal Administration if its broadcasts are overlaid
by stronger transmitters, and that it is sheer luck if such protests are
heeded. Thus, he said, a Hungarian transmitter surprisingly stopped over-
laying the ORF program following an intervention (before Kadar's visit to
Vienna), while a similar ORF protest did not even draw a reply from a
Christian broadcasting transmitter in the United States which also con-
siderably interferes with its programs.

The ORF Short-wave Service, which is operated on behalf of the Austrian
Government, has only four 100-kilowatt transmitters, as compared for
example, with Switzerland's three 100-kilowatt transmitters, eight 250-
kilowatt and one 500-kilowatt transmitters. On the newly occupied fre-
quencies, so far, only a Russian transmitter has been heard at 5.925 MHZ,
but it goes off the air at 2000 hours.

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TANJUG Reports Occupation

Belgrade TANJUG Domestic Service in Serbo-Croatian 1625 GMT 26 Jul 77 LD

[Text] Vienna--The Vienna KURIER reports today that Austria--in the paper's own words--"has occupied two radio frequencies to insure better reception of its shortwave program."

The paper says that "the war for wavelengths" which has been going on in the ether has been subjected to preemptive action by Austria "simply occupying" for its shortwave program for abroad the following two frequencies: 12.025 MHZ (from 1500 to 1700 hours, and from 1400 to 1600 GMT) and 5.925 MHZ (from 2000 to 2300 hours, and from 1900 to 2200 GMT).

Hitherto these programs, of which the first is intended "especially" for southwest Europe and the second for all of Europe, have been transmitted on 11.855 MHZ and 6.155 MHZ.

The head of the short-wave program, Macher, has stated that the "occupation" of the frequencies has taken place with the approval of the Austrian Federal Post.

CSO: 5500

PTT FOREIGN-TEACHER TRAINING CLASSES DISCUSSED

Paris MESSAGES DES POSTES ET TELECOMMUNICATIONS in French Apr 77 pp 7-10

[Article]

[Text] From 31 January to 30 March, 18 instructors from 12 European, African,
and American countries participate in a training session for foreign instructors,
which the General Directorate of Telecommunications (DGT) organizes annually
in Paris. The course presents the most advanced teaching methods and the
modern material (especially audiovisual) which they require.

"If you give a hungry man a fish, that is good; but if you teach him how to
fish, that is better." This Chinese proverb is well illustrated by the
Fourth Training Session for Foreign Instructors, held from 31 January to
30 March, and organized by DGT under the sponsorship of the International
Union of Telecommunications (UIT).

It was in 1972, as a result of the Evian International Seminar (1), that
several countries asked the French telecommunications to organize training
sessions for instructors. They now constitute a form of technical cooperation
developed by DGT as part of its international activities.

In terms of training, this cooperation assumes two aspects. The first and
most obvious one, consists of bringing foreign trainees to French teaching
centers. As a result, 300 of them are trained every year by the Directorate
of Higher Technical Education (DEST), the Directorate of Higher Administrative
Education (DESA), or the Overseas Bureau of Mails and Telecommunications
Studies (BEPTOM). This approach is satisfactory in the short term. But

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(1) This was an international seminar devoted to professional training
standards in the field of telecommunications, which was sponsored by UIT,
and which was held in Evian from 2 to 22 March 1972.

it would be ideal if in the longer term the foreign administrations could take over from the French education services, and be in a position to train themselves the technical personnel charged with the operation and maintenance of telecommunications equipment. That is the second aspect of the French assistance in the area of training.

A Program in Two Parts

In order to achieve this purpose, the session program is divided in two major parts: psychopedagogy elements, and a method of conceiving professional training courses. Psychopedagogy analyzes the relationships which are formed between teachers and those who are taught. It uses individual psychology and especially group psychology. By means of role playing and through the creation of situations, the trainees learn group dynamics. This aspect of the teaching job is well known; but there exists another aspect, which is non-trivial. Indeed, at a time when rapid technologic progress makes it possible to perfect equipment with increasingly extraordinary performances, and of increasing complexity, it becomes necessary to design courses which will enable the personnel responsible for this equipment to perform its task under the best possible conditions.

Viewed in this light, traditional courses have two serious drawbacks. They consists of two parts. During the first, the information which is considered necessary for understanding the second part is provided as one block; the second part is the study of the equipment itself. The consequence is that on one hand no rigorous means are available to determine whether this general information is perfectly adapted to the needs of the trainees during the second phase of the course, and that on the other hand -- this being the most important fault -- theory and practice are dissociated while they often constitute two aspects of the same knowledge. For instance, it is equally important for a technician to know how to measure voltages in electric lines, as it is for him or her to know the principle of a voltmeter. The teaching of a voltmeter's construction and the teaching of its use must be closely related.

Relating Theory and Practice

The new method for designing professional training courses, developed by the telecommunication teaching services and presented to foreign trainees, eliminates these two drawbacks. Its primary characteristic is that it "works in reverse." Using this method, the course designer is concerned first with the most complete possible description of the operation of the device being studied: tasks to be accomplished, methods employed, tools used. He then determines the practical as well as theoretical knowledge which should be acquired for accomplishing the tasks and using the tools. This relates information (theoretical knowledge) and ability (practical knowledge). Moreover, this evaluation of knowledge is accurate since it is based on a rigorous observation of working methods rather than on a priori assessment.

Another characteristic of this method is that it takes into consideration the human factor, thanks to a study of the population (2) for which these courses are intended. For instance, the same course design will not be used to train personnel with long professional experience, which has slightly forgotten general scientific concepts, and to train beginners who have just graduated from high school or the university. Other considerations also apply. Is this population homogeneous in terms of age and schooling? What is its degree of motivation? Will this training constitute a promotion? All of which are factors which must not be overlooked in designing the courses.

How is the information gathered to describe the work of the personnel being studied, to analyze the population? Through surveys; the instructor thus becomes investigator. Whence the need to provide him with concepts of individual psychology, which will enable him to conduct his interviews efficiently. The difficulty often lies in making those who are being interviewed understand that they are not being accused or suspected, that no one is checking up on their work, and that they are not being investigated. This is a delicate task. Two types of surveys are used. The first approach is an analysis of the work location: it makes it possible to study the human environment (hierarchic and functional relationships), and to list the duties inherent to the location. The second approach is to analyze the job, providing the level of detail desirable to describe methods of work.

The Human Factor

Knowing that it is practically impossible to train an experienced agent in a few weeks, the instructor will have to estimate to what extent the "student" resembles a reference model at the end of the course. The beginner will acquire experience little by little, and additional training courses will progressively bring him to the level of a qualified agent.

Our trainees have been aware of the fact that the human factor is taken into consideration when the training courses are designed. They have also been impressed by the flexibility and the precision of the method, which makes it possible to formulate courses for significant training classes, such as in the case of technicians, which last six months, as well as for less major classes, such as those for testing and measurements, which last one week.

However, some trainees fear that this method will lead to a narrow specializiation of the personnel. This reaction is understandable: the training acquired in this manner is modular. A module can be defined as the sum of knowledge (theoretical as well as practical) needed to perform a small number of tasks. It is therefore natural to think that there is a danger of training "robots" capable of performing only a few functions. This fear is generally allayed

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(2) The word is here taken in its modern scientific sense. Cf. Le Petit Robert: "Limited group of 'individuals' from units of the same kind, which are together, and on which statistics are calculated."

when one observes that properly applied, the method does not trap the agents
into repetitive and uninteresting tasks. Indeed, nothing prevents the
expansion of the "students'" field of action and knowledge to whatever limits
are desired, by providing them with several modules to cover all their functions.

One of the fundamental principles of this method is not to dissociate theory
and practice. The organizers therefore did not intend the sessions as "chats"
to show off their instruction, without providing proofs of their value. During
the two months, each of the trainees establishes a project, related of course
to his specialty (lines, transmission, switching). In this manner he
experiences each phase of the method. Moreover, he has to use many modern
teaching aids (slide projectors, tape recorders, and so on), which familiarizes
him with their operation. At the end of the session the project will probably
not be finished, but it will provide a reference which the trainee will be
able to consult subsequently, and in order to work on the project, he conducts
his studies within the French telecommunication services.

The foreign instructors have appreciated the availability and kindness of those
who have welcomed them. In their eyes, these studies had a two-fold interest:
first, they offered an opportunity to practice the method; and second, they
provided an occasion to enrich their experience, some of them discovering an
organization slightly different from the one which exists in their administrative
units. To complete their information, DGT organizes visits, notably at the
Technical Service for the Study of Modern Teaching Methods (STEMME), at the
ground station of Pleumeur-Bodou, and at various centers for telecommunications
teaching. The trainees also participate in a round table which gathers many
instructors. And finally, they take the traditional trip to Geneve, where
they are received at UIT.

Avoiding Monotony

As things stand, all the trainees are not at the same level during their
project studies. Some of them, in particular Algerians and Tunisians, had
recently heard, at home, a rapid presentation of the method from French experts.
The method is beginning to be tested by their administration, and they attended
this session to perfect their skills. For the others it was a new discovery.
As a result, a situation which avoids monotony is created within the group.
Viewpoints are exchanged, and fears and hopes are discussed.

Once back home, will the instructors put into practice this modular training?
The experience gained from former sessions shows that they do not do it
immediately. In most cases, they have to convince their administrations of
the method's value, which upsets the traditional concept of teaching. As a
result, they first attempt limited experiments in order to prove the
effectiveness of modular training. In countries where the method has been
adopted, the instructors participate in the formulation of increasingly
large projects.

Until now, the telecommunications services did not provide "follow-ups" for these sessions. But the increasing number of trainees will soon justify such actions. The personnel service of DGT, in collaboration with the Directorate for Industrial and International Affairs (DAII), is planning to to form missions which will provide this follow-ups. The format which they might take is still under study.

Paris: Mixed Opinions

Trainees who have already visited France rapidly adapt themselves to the pace of Paris life. The others are subjected to a radical change in their living conditions: climate, travel within the city, food, schedules, high costs. Some others must regain familiarity with the French language. The first weeks are difficult: they often have to attend to administrative formalities and many small material problems.

Visits, studies of services, and role playing leave the trainees very little time to discover Paris and tour as much as they would like. At the end of this session, some of them will spend some time in the industry, and will probably have a chance to be out of town.

Their opinions about the capital are divided. "Paris is a myth," says one. Modern buildings are appreciated in various ways: "They disfigure the town," estimates one; "They are an inevitable evil," thinks another. On the other hand, there is unanimity when they describe the life of Parisians: "They lead an existence of madmen," "They are always in a hurry," is the often repeated opinion. What is most surprising to the foreign instructors, is the difference in behavior between the people who on the street run, see nothing, and hear nothing, and the people who welcome them at the services. In general, they consider older people more helpful than younger ones.

There is still much to say about the interest raised by these sessions. But we will conclude by observing that in a world where incomprehension reigns, they provide an opportunity for persons of different nationalities and cultures to establish direct contact by pursuing the same activity.

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AUTOMATION OF POST OFFICES PROGRESSING

Paris MESSAGES DES POSTES ET TELECOMMUNICATIONS in French Apr 77 pp 11-14

[Article]

[Text] Offering the public more services of better quality, and improving the working conditions of the personnel are two goals of the PTT (Mails, Telephones, Telecommunications) administration: to achieve them, the administration is studying the possibility of automating post offices. Right now, partial experiments in Nantes as well as Paris are being conducted.

10 January 1976. The financial counter at the Nantes-Chantenay post office is equipped with a computer terminal. It is next the turn of the counters for postal money orders and for the National Savings Bank at Sain-Nazaire Main, Nantes RP, and Cholet. In all, 13 terminals are currently installed in the Loire region, including the one at the financial booth in Saint-Nazaire.

15 June 1976. The first counter for automatic mail stamping (GAPA) is tested at the Paris 102 post office, in the 15th district.

All these experiments are part of an important project: to achieve a maximum automation of post offices, at windows as well as in "back rooms." This has led to the creation of the Commission for Post Office Automation (CABP), which has been charged with a study in three stages:

Provide a diagnostic on the automation possibilities for each of the operations performed in a post office;

Define the procedures for automatic management, and study the operational specifications of the equipment which should be used;

Establish a technical description of an automated post office, detailing the equipment and its cost.

Why enter into automation? For one thing, in order to use the possibilities offered by the current technology, and to move from the electromechanical era into the electronic one. But automation cannot be an end in itself. This option makes it possible to attain two correlated goals: in the sense understood by the General Directorate of the Mails, automation means a simultaneous aid to personnel in their tasks, and an improvement in the quality of the services provided for patrons. The tests which are being conducted prove that these two objectives can be reached.

In the Loire Region

Until now, in the area of financial services the administration has devoted the bulk of its automation efforts to the handling of the large volume of transactions at postal money order centers (CCP) and for the National Savings Bank (CNE). Henceforth it will orient its activities more directly toward the "line of contact" with individuals.

"We have to expand and multiply the points of contact with the public," points out Mr Andre Bousquet, deputy director of the Directorate for Financial and Data Centers. "This is the aim which has led to the development of automatic bank note dispensers, the location of 13 computer terminals in four post offices in the Loire region, and the study of so-called point of sale terminals which will be installed in stores."

The terminals installed at the financial counters of the Nantes post offices are connected directly with the postal money order files and with CNE, enabling the transactions to be made in real time. While this connection does not fundamentally change the nature of the services rendered, it does remove significant constraints and expand the services.

The improvements brought to postal money order services concern sight drafts, payment orders on a CCP, and several transfer operations. When a customer of the Nantes CCP presents himself at the office at which he transacts sight drafts -- his assigned office -- he can obtain his total holdings. The four-day delay before he can cash another draft is no longer applicable. If he presents himself in another office which is equiped with terminals, he can from now on withdraw 1500 francs every four days. We should point out that account inquiries are possible with simple identification. Deposits from account holders on their own accounts are credited immediately.

CNE transactions on accounts in the Nantes region are also handled on the terminal, with real time entries in the "sales" file of the CNE, controlled by the computer of the Nantes CCP; this file is a copy of the one in the central computer of the CNE in Paris. The national "sales" file and the Nantes "sales" file are matched daily through a data exchange between the two electronic machines.

On behalf of CNE, the transactions performed are acceptance of deposits, payments of all types, and even accounting operations such as updating of bank books (salary witholdings, receipts), stop payments, account inquiries, and interest up-dating. This year, for instance, the instant entry of these transactions was possible as early as 3 January. In addition, after a first deposit, the bank book is provided immediately by a printer. For withdrawals, nothing has changed for accounts out of the region, which are entitled to withdrawals of up to 1500 francs without previous notice; at the same time, for accounts in the Nantes region, withdrawals can reach 5000 francs after verification of identity, for account holders whose 1 ter file is not in the respective office. The terminal eliminates the need to keep this 1 ter file (description of the customer's account), which then serves solely as support for the account holder's signature.

Other advantages of the terminals are that counter assistance operations, such as simulation of savings-housing plans or currency conversion, are possible. Customers also appreciate the reduction in transaction time, especially in the case of CNE. The presence of the terminal, in fact, gives the impression of a very high efficiency.

Along with the expansion of services offered the public, these new installations trully simplify the work of agents, while deriving more efficiency from their time. These two statements are not contradictory. The operating procedures and the instructions inserted in the terminal are designed to establish a constant dialogue between the computer and the agent seated at the terminal. What's more, the access to the files of regional centers -- "where the live memory of the financial services is kept," in the words of Mr Bosquet -- provides the agent with plenty of work: he controls the transaction totally, deciding its execution (if funds are insufficient he can orient the choice of the customer) and completing it fully.

Automation puts an end to duplication of operations; since these are no longer relayed among regional centers, all the "paper supports" (withdrawal requests, for instance) are kept at the post office. In addition, this new system lightens the work of cashiers as well as that of accountants because all the elements are memorized at the window.

A minicomputer is connected to the Nantes CCP and attached to the post office terminals: this is the experimental organization in its actual position. The terminals have an alphanumeric keyboard, a viewing screen, a magnetic tape reader-encoder (reading and writing magnetic strips in bank books), and a printer.

The agents are trained during a three-week course devoted, of course, to the use of the terminal, but also to a review of postal money orders and CNE regulations. This approach has been well received by the personnel who has attended the course.

A call for bids -- whose results will soon be known -- was issued to manufacturers, to equip about 350 post offices within four years: 35 in the Nantes region as of 1978, and 315 in Paris and in the departments of Hauts-de-Seine, Seine-Saint-Denis, and Val-de-Marne. The program covers 475 work stations: 445 complete ones, and 30 smaller installations. The forecasted financial balance is positive.

Financial Booth

Since 14 December 1976, an automation test of a financial booth has been in progress at the Saint-Nazaire main post office.

The equipment used in this test consists of three elements:

A keyboard and screen with numerical and function keys;

A statement printer for the automatic issue of multiple documents used daily in the financial booth (customer and summary statements, situation of money orders paid, and so on);

A minicomputer.

The test covers the three phases of the daily activity in the financial booth.

The first phase is the posting -- customer by customer -- of the items (money orders, letter-checks) which are to be presented. The agent verifies the validity of the information by displaying on the screen the amount of each money order. As soon as he has finished handling one batch and begins verification, he has the option of automatically printing the corresponding statement. And once "posted," he can do the same with all the money orders to be distributed, and all the summary statements.

The contribution of this automation is not limited to its printing functions. The essence of the improvement rests with the calculation and tabulation of funds for each customer, jobs which until now had to be done "against the clock."

The second phase, known under the name "rendering of accounts," enables the agent seated in the booth to use a conversational procedure with the computer in order to establish the balance of transactions (receipts, payments) conducted by the customer, and thus to obtain the amount of funds which each customer must replace, based on the data posted in the morning and corrections provided by each customer.

But it is during the third phase that the automatic procedure assumes all its efficiency. In addition to establishing cash balances, the system produces (without operator intervention) the condition of paid money orders, and updated statements for counters and attached offices. This computerized tool therefore lightens the load of the financial booth, reinforces its

procedural security, and eliminates the most onerous tasks (updating records). The agents have rapidly become adapted to this new work method, and appreciate the modern, reliable, and secure equipment. In its present context, the study is therefore aimed more at the procedure than at the equipment; in fact, the equipment used in the case of Saint-Nazaire will be redefined in terms of ergonomy and performance.

GAPA

Since 15 June 1976, the first counter for automatic mail stamping (GAPA) has been providing services at the Paris 102 post office. This is a new piece of equipment, well adapted to the specific needs of stamping windows. This autonomous electronic assembly automatically performs the three basic operations of these windows, namely: weighing, calculation of value due, and printing of stamp and other instruction labels. As soon as the clerk places the item on the scale, its weight is instantaneously displayed; he then enters on a keyboard various codes corresponding to the category of the item, destination, and whatever special services are requested by the sender (registered, return receipt, and so on). A "cash received" key releases the stamp and other labels. Special procedures, such as the stamping of a series of items, are also provided. In addition to these functions, GAPA performs accounting and statistical calculations. And finally, a "calculation" key makes it possible to perform arithmetical operations (addition, substraction, multiplication) without interfering with the accounting totals.

The prototype instrument is composed of four interconnected elements:

A balance which weighs any item up to 5 kg, to an accuracy of one-half gram;

A keyboard and a calculator connected to two digital displays of weight and stamping value; one is visible to the public, the other only to the clerk;

A printer for stamp labels, registration labels (integrated with the stamp labels), sending receipts, and so on;

A dispenser of self-sticking signal labels ("letters," "air mail," and so on) stored in bins with lighted windows, enabling the clerk to know the type of label to be used for each operation.

First results have already confirmed the value of GAPA. Agents like its modern appearance, its easy operation, and its reliability, particularly in calculating fees for complex transactions. They can take advantage of the improved working conditions (fewer item manipulations, clear working area, elimination of account books and stamps) to devote more attention to greeting and meeting patrons.

The patrons, in turn, are impressed by the unquestionable advantages of seeing the weight and fees for their items. Not to mention the fact that transactions are faster and waiting time is reduced.

Duality

Before being more widely used, the present GAPA prototype should be modified
slightly in terms of procedures and dimensions. But that will have to await
the end of a CABP study conducted by Mr Jacques Ruat, administrator at the
Paris Mails Directorate. That is because the devices tested at Nantes and
Paris 102 cover only part of the post office functions. The commission was
charged by the director general of the mails to go further, and examine the
conditions under which it would be possible to achieve a total automation
system. Before indicating the first conclusions reached by the commission,
it seems appropriate to define the goals of this automation policy, aimed at
patrons and personnel simultaneously, as explained by Mr Ruat:

"In the view of the commission's members, automation consists of placing at
the disposal of the personnel a tool which will relieve them of the most
tedious tasks which they have to perform. The use of modern means of
production and management is primarily intended to ease the work of agents
and increase their availability to patrons, thus placing them in a better
position to meet the needs of these customers."

This closely relates the ideas of improved working conditions and services
rendered. With respect to the public, the result of automation will be to
avoid waiting, increase the ability of window clerks to respond to demand,
and eventually expand the range of services offered.

"In no case will automation be synonymous with robotization and job elimination.
On the contrary, it will make it possible to expand the sources of information
and the range of activities of agents, who in addition will have greater access
to all the activities in the post office. As to the heads of establishments,
they will be able to have an immediate overall view of the functioning of
the services."

Inventory

The work of the commission was preceded by a preliminary study intended to
review and analyze the some 200 operations performed at windows and "back
stage" in a post office. The decision on whether an operation could be
automated was then made solely on the basis of technologic approaches
presently developed; in addition, approaches whose cost appeared out of
proportion with the advantages they could possibly provide, were set aside.
An operation which can be totally automated is one in which the role of the
agent can be concentrated on welcoming patrons, controlling and handling
money, and of course, using the machine's keyboard to enter data.

The principal window operations which seem as if they could be totally
automated, are the following: stamping, issuing and payment of money orders,
payment of letter-checks, operations of CNE, and postal checks.

Other operations can be partially automated, such as parcel post service, telegraph windows, payment of annuities and pensions, transactions involving treasury bonds, and loans. For the latter, the automation of schedules will allow the determination of issuance and reimbursement values. The plans also include the creation of computer files for instruments which have been stolen or for which stop-payments have been issued, as well as address files; all of which will help improve verification possibilities at windows. Finally, this category includes operations preliminary to the purchase of insurance contracts and SICAV (Variable Capital Investment Company) contracts -- simulation of operations and of rates, for instance.

In any event, the accounting and management of the treasury will be entirely automated (1M and 4M states, and 1104 statement).

For the "backstage" operations, the financial booth will be automated, and if current studies are positive, so will the charges booth (sending and receiving of registered items), and the statistical booth.

Horizon 79

The stage of our projects makes it possible to imagine the prototype of the automated post office which should be unveiled in 1979. It will include one or several minicomputers, and window terminals. The minicomputer(s) will manage on one hand, the joint operations of the post office -- accounting, management of internal files, data storage for subsequent transmission -- and on the other hand, the "concentration-diffusion" function for real time connections between postal money order and CNE windows, and regional center files. The terminals would enable the entry and display of data, dialogues between agents and computer, and access to central files, while performing the repetitive material tasks actually provided by the same agents. They would print various documents (labels, bank books, and so on), and would maintain a journal to facilitate account balancing.

The equipment used will have to satisfy several requirements: reliability, simplicity, security of information and system, modularity, and flexibility. The devices will be adapted to the size of the office and to the traffic at each type of window. Of course, all the establishments will not need a complete installation, some of them being assigned only simplified machines. But it is important to note that one of the major concerns of the administration is to enable all fully operating post offices, whether or not equipped with a terminal, to offer services of equal quality to patrons according to an organization whose framework and means are being studied. This is the direction toward which all research is being oriented.

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(2) The magnetic band of the CNE bank book carries three indications: the number of the bank book, the amount in the account, and the number of the last line used for the transaction entry.

PROGRESS IN COMPUTERIZED POSTAL MONEY ORDERS

Paris MESSAGES DES POSTES ET TELECOMMUNICATIONS in French Apr 77 pp 4-6

[Interview with Charles Bizet, director of Financial and Data Centers, and Guy Delmas, director of Business in the General Directorate of the Mails]

[Text] Transfers of funds, payment vouchers, optical letter-checks, and exchanges of magnetic tapes are some of the "products" offered to customers by postal money orders, and which MESSAGES presented in its previous issues. But the management of more than 7 million accounts and the daily handling of 6 million transactions requires an efficient organization and an equally efficient tool. As we know, for the last fifteen years this tool, whose performance has progressively improved, has been information processing.

Today, all metropolitan postal money order centers have been converted to electronics. It is therefore appropriate not only to review their performance, but also to attempt to imagine their predictable progress and consequent benefits for the public. These questions were raised by MESSAGES with Charles Bizet, director of Financial and Data Centers, and with Guy Delmas, director of Business in the General Directorate of the Mails.

An Easier Life

[Question] Mr Bizet, what advantages does computerization offer to customers?

[Answer] Computerization offers several advantages. To begin with, is what I will call the quality of services rendered. Overall, computerization has introduced a higher quality of execution -- including the legibility of account statements and their distribution, since they can be sorted by an automatic sorting center.

But computerization has also enabled us to offer new services to individuals and enterprises. Such is the case of bank note distributors -- which are computer terminals, of magnetic tape exchanges -- which make it possible to make pension payments, pay salaries, withdraw from CCP (Postal Money Order

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Centers), and so on, and of post office terminals (*) -- which among other things enable immediate redemptions at CCP without other limitations than an open account. Another aspect of computerization, associated with optical readers, has been the creation of the optical letter-check and optical mailcheck, and the developemt of the universal payment voucher. In addition, it has provided us with a better understanding of what we are doing: if we can provide the customer with a cashing privilege of 500 francs when his account happens to be overdrawn, it is because we can control the accounts electronically.

In summary, a wider range of products. I believe that this is the area in which computerization does and will continue to offer significant and lasting improvements in service to customers. It should make life easier for everyone, whether individuals, enterprises, or CCP personnel.

[Question] What is the future of centers which have not yet been automated?

[Answer] The relatively small number of accounts serviced by the five centers which have not yet been automated -- Ajaccio and four centers in overseas posessions -- require a specific solution. We will gradually bring them into the computerized network, beginning with Ajaccio, which will be equipped with an independent system. Later, as the technique progresses and costs drop, other solutions should be possible, such as the connection of Ajaccio to a larger center.

[Question] Mr Bizet, automation implies consequences for the personnel. How did this work out?

[Answer] The transition to computerization has of course raised problems, and important ones at that, in this respect. On one hand, the personnel had to learn new methods of operation. On the other hand, automation reduced the number of jobs, which required a reclassification. This reclassification was conducted in the best possible manner. In fact, circumstances were favorable: in Paris, the personnel is renewed at the rate of 20 percent per year; elsewhere, at the time when the large centers (Marseille, Lille, Lyon, Paris) were being automated, the PTT (Mails, Telegraph, Telephone) budget created a significant number of jobs. I should point out that the reclassification has also enabled us to satisfy CCP agents who wanted to work closer to home or who wanted to move back to the provinces.

[Question] Computerization thus improves service quality. Yet, the trend is toward the handling of operations as "J+1" instead of "J". Is this not on the contrary, a degradation of this service quality?

(*) See our article on p 11.

[Answer] Let us begin with the "J" situation, which signifies that transactions are handled during the day on which they are received. Since the computer imposes delays on information entry, the transactions which have not been concluded on time can only be handled the next day. The "J+1" handling can be described as follows: information is entered throughout the day, both for credit and debit. Data entry is thus freed from the computer constraints, which allows for great flexibility. The account statements are printed during the night and sent out the next day. Therefore, it·is solely with respect to the information which is presented to customers that there is a one day delay. But if we look at what happens with "J" we see that the account statements are delivered to the sorting center at a time of heavy traffic, which does not facilitate their distribution, whereas with "J+1" they are deposited at the end of the morning, when the center is more available to receive them. To answer your question, it is true that this handling might not seem to be an improvement in service. But in fact, customers were rapidly able to appreciate the regularity obtained thanks to a total "J+1". In short, "J+1" handling has improved the overal general quality of the service.

New Centers

[Question] There is mention of locating CCP's in the Paris suburbs. Is this true?

[Answer] This decision is based on two observations. The first is that Paris-cheques is now one of the largest establishments of the capital, and the growth due to the development of its operations raises the risk that a good quality of human contact, which is indispensable to the enterprise, could no longer be maintained. The second is that our agents live further and further away from their jobs, notably in the new towns which have more housing.

Therefore, as soon as the technology allowed it -- and that is another advantage of computerization -- it seemed desirable to open new centers in the Paris region. This should allow at the same time to slightly lighten the load of Paris-cheques, and to offer to agents who live in the new towns a job close to their homes. The first centers planned are for Evry and Saint-Quentin-en-Yvelines, which actually corresponds to the desire for good equipment on the part of these towns. In my opinion, this should raise no personnel problems: we have already surveyed the agents who live near Evry, and there are six hundred of them. We expect to open Evry in 1980, and Saint-Quentin-en-Yvelines toward 1982. However, there will still be only one computer center for the Paris district, in order to guarantee the same quality of service. To be more specific, there is absolutely no question of reducing the size of Paris-cheques, which will retain the major portion of its traffic considering the constantly growing number of transactions.

[Question] What are the results of the Nantes experiment, in which the terminals installed in post offices enable the clerks to have direct access to postal money order and National Savings Bank accounts?

[Answer] The reception given to this experiment went beyond our expectations. It was accepted by the public as well as by the agents. This was a prototype operation, and we are currently in consultation with manufacturers for a more general application. The new equipment will be tested in the Nantes region in 1978, and if the results are positive, installation in all Paris post offices should occur in 1979 and 1980.

[Question] What are the intermediate range computer projects?

[Answer] They are primarily projects to improve existing services, such as the printing by PTT of an optical letter-check using magnetic tape. However, we are considering the installation of "point of sale terminals" at which account holders could settle their purchases by means of a credit card. One of its advantages would be to eliminate checks for small amounts, which are expensive. The practical aspects remain to be defined. But I believe that this is the formula of the future, even if this future cannot yet be given an exact date.

Positive Balance

For Charles Bizet, computerization thus represents the ideal means for guaranteeing and improving the quality of the services offered to customers by postal money orders. That is also the aim of Guy Delmas, who has just been named head of the entire young Business Directorate.

In 1977 and in the years to follow, postal money orders will be oriented in two primary directions: service quality, and range of services offered to individuals and enterprises.

Service quality is one of the constant concerns of responsible parties in PTT, whether their activities are the routing or distribution of correspondence, the organization of post offices, or financial services. The diversity of activities in PTT leads to very varied situations, but the efforts of all concerned must tend to make the PTT the public service whose operation will satisfy all our citizenry.

The computerization of which Mr Bizet just spoke, brought profound upheavals in the methods used by the postal money order service. Since this computerization has been operating for almost one year, it is possible to review its contribution to service quality. The balance is unquestionably positive. The number of protests or complaints from holders of current postal accounts is steadily decreasing. The traffic flows quite normally. In Paris, for instance, even though the volume of transactions reached a new record level at the end of the year, no extension of handling delays has been observed. This is an incontestable progress, resulting from the ability of computers to absorb traffic peaks. Another indication of satisfaction on the part of the public is that in 1976 the number of account closings reached its lowest level in several years.

With quality of service as our goal, 93 percent of the checks were handled on the day they arrived at CCP's. This result should be consolidated and improved by reaching a 95 percent rating, which is the optimum obtainable when one considers the weekend interruption.

Constant Attention

The second aspect in postal money orders is the domain of services offered to customers. Their needs are growing, their habits are changing. Postal money orders would not fulfill their public service role if they were not constantly sensitive to the needs of users, and if they were not in a position to change as needed by the public. The postal money orders service is actively involved in these pursuits, and its efforts in the future will not be lessened.

A recent issue of MESSAGES offered an extensive presentation of the range of services available to individuals and enterprises. I simply want to say that we continue to seek the best means for providing more personalized relations between mail services -- post offices as well as PCC's -- and account holders. This interest begins with the opening of an account. The formalities for obtaining an account have been significantly eased, and the same concern for simplifying customer-account holder relations must be manifest for the lifetime of the account. And this not necessarily imply spectacular achievements, but rather a constant attention to the needs of users.

To illustrate what I have just said, I will mention the training which is currently given to postal money order employees who answer requests for information or complaints from account holders.

I will also indicate the temporary credit extended to customers whose accounts are normally well maintained, and who as a result of circumstances which may be beyond their control, do not have sufficient funds to cover the checks which are presented on their accounts. Despite the fact that these courtesies must retain an exceptional character, they are of great interest to holders. And in fact, the reliability of these customers is demonstrated by the rapidity with which they cover their accounts. Is it possible to go beyond the current limit of 500 francs for persons whose salaries, retirement payments, or pensions are deposited in their current postal account? The question is valid, and the subject is now being studied.

More immediately, I want to point out the investment effort which has been made to add, by the end of 1977, bank note dispensers to another 120 offices in addition to the 30 which already have them. This service will then be available not only to people in the Paris region, but also to a certain number of offices in the regions of Bordeaux, Lille, Lyon, Marseille, Poitiers, and Toulouse. Equipment will be added to other offices in future years, until we reach the currently planned figure of 500 distributors. The reception given by customers to the new devices, demonstrate how needed they were. The

possibility of withdrawing money 24 hours a day is now part of this service, which for the public, enhances the quality of life. The mails service had a duty to be a part of it.

The experiment of installing computer terminals in the post offices of the Nantes region was initiated by the same desire to increase the services offered to patrons. In each of the offices equipped with this device, account holders can withdraw the amount they want from their current postal accounts, as well as from the National Savings Bank, with an unprecedented rapidity of execution.

I could have spoken equally as well about the development of mail-checks which allow fund withdrawals abroad, and whose users tripled in one year. And I could also have mentioned the systems of cashing and payment offered to social organizations and enterprises.

But I simply wanted to show you by means of a few specific examples, that our driving interest is to progress in satisfying the needs -- as varied as they are changing -- of our patrons. In this respect, postal money orders -- the main link in our chain -- fully play their public service role.

There is no doubt that MESSAGES will often have occasion to inform its readers of our future achievements.

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PROBLEMS OF AUTOMATED MAIL SORTING ADDRESSED

Paris MESSAGES DES POSTES ET TELECOMMUNICATIONS in French Apr 77 pp 16-18

[Article]

[Text] First among all countries to install an automated mail sorting plan,
France has decisively and clearly chosen the option of separate pre-indexing,
a policy which most foreign countries are adopting one after another. Indexing
is the translation into machine language of certain elements of the address,
and is designed to be read by automatic sorting machines. The diversity of
address presentations in the mail -- hand written or typed -- has led the
Directorate of Postal Services, in close collaboration with manufacturers,
to perfect a whole range of indexing equipment, from the simplest to the
most sophisticated.

"The first sorting machines were installed as early as 1958 at the main Paris
receiving center," reminds Mr Pierre Jeanjean, chief engineer at the Directorate
of Postal Services. "Each machine sorting on 300 directions was manned by
six operator stations. Each operator indicated to the machine the bin to
which the letter should be directed, by typing into a keyboard a two-character
code -- which had to be learned -- corresponding to the destination of the
item. Once this sorting was performed, the work of the operator was 'lost'."

To remove this drawback and avoid a re-reading of the address during the
routing, technicians have had the idea -- for more than ten years already --
of printing on the envelopes markings which could be read by automatic
sorting machines as often as necessary. This is indexing, and it too has
its small story. At the beginning -- at the Austerlitz sorting center --
indexing was composed of ten horizontal marks, several millimeters wide.
As a second stage, their size was decreased and their number increased.
The result was five vertical stacks of small horizontal strokes. And finally,
in the third stage, which is the present situation, the vertical strokes, of
which there are twenty, are located on a horizontal line at the bottom of the
letter, with variable spacings as a function of the code number.

"For they in fact represent the postal code. Thus, no memorizing effort is required of the operators, who simply type on the indexing keyboard the code number appearing on the item," explains Mr Jeanjean. "In addition, I should also point out that our postal code enables not only the route sorting, but also a significant part of the distribution sorting, since our large users are assigned a specific code."

At a certain point, indexing has also made it possible to reduce the size of the sorting machines. If the sorting is to be in 300 directions, it is no longer necessary to have a machine with 300 effective separations. For instance, a preliminary sort can be performed in 50 directions, following which the machine program is changed for more detailed sortings.

"This approach has actually been abandoned," clarifies Mr Jeanjean, "because present machines are designed for 160 to 180 separations, which generally suffice for a single pass sending sort. However, if that is still not enough, the remainder of the first sorting is handled in another pass."

The French mails has an extensive range of equipment for this indexing. Some of this equipment is operational, such as the simplified indexing station (PIS), the mixed indexing station (PIM), and the advance postal address indexer-reader (LIPAP). Another machine, the videocoding indexing system (SIVIC) operates on a test basis. The latest model is called SIRCA, for integrated system for address recognition and coding, and is now under study.

PIS and PIM

PIS and PIM are manual indexing stations. They require the simultaneous physical presence of an operator before a keyboard, and of a letter. The first model, usable only for "routing," is designed for post offices of intermediate size working with an automatic sorting center (CTA). It is now found in the Nantes and Strasbourg regions, cities which have a CTA. With its simplified construction and operation, PIS is primarily designed to allow a certain decentralization of indexing, this essential phase of mail handling. Thus, as soon as it arrives at the CTA, the mail can be fed into sorting machines, leading to better traffic flows at peak hours.

On the other hand, mail which arrives non-indexed is fed into and PIM, which is more advanced and which is installed only in sorting centers. As for PIS, PIM prints "routing" indexing marks by composing the figures of the postal code on a keyboard. Although is mail feeding system by means of feelers provides a better performance, the essential difference between the two machines rests in the fact that the second, PIM, is also used to index mail for distribution. And this operation, performed upon arrival in cities which have a CTA, is more complex.

"One cannot expect," explains Mr Jeanjean, "all operators to know all the rounds of residents. It is also very difficult to require customers to write on their mail a more complete code, which would include the indications

needed for a distribution sorting. This is a policy option which was discarded in France, but which was envisaged in other countries such as England or the Netherlands."

The distribution sort coding is performed through a conversational procedure, a sort of dialogue between the operator and a computer. The operator types the first three characters of the directional word in the address (1). In many cases this indication is sufficient to define the mailman route for the letter. In other cases, an ambiguity still remains: because of homonyms, or because several streets have the same name, or yet because several mailmen service the same street. The computer then asks further information from the operator, such as the number of the building, or the type of street, or an additional character in the directional word or the preceding word. As soon as the ambiguity is resolved, the computer says "OK" and the letter is indexed.

LIPAP

Expensive and sophisticated, LIPAP is a tool with astonishing performance. It is capable of performing in a single pass, the routing indexing and the distribution indexing for mail destined for a given region, as well as a preliminary sort. And it does this at a theoretical rate of 86,400 letters per hour for double-input LIPAP machines, such as the ones installed at Paris-Montparnasse and Paris 17. Currently, these readers handle the mail of large users such as postal money orders (11,400,000 letters per month), banks, the Regional Telecommunications Computer Center (CRIT), or insurance companies. In a second stage, they will index all typed mail. Given their price, these machines will be installed solely in very large centers. Unless a machine of French design, presently under study ....

SIVIC

The videocoding indexing system is not yet being manufactured. Only a prototype is being tested at the Paris-Montparnasse sorting center. However, specialists such as Mr Jeanjean place great hopes for this equipment:

"Compared to PIM, it will improve the working conditions of operators, and provide technical and economic advantages."

With SIVIC, it is no longer the letter which is presented to the operator, but an image of the letter. The letter is introduced into a transporter, where the image of the address is captured while it moves at 3 meters/second in front of a camera. The image is magnified with strong contrast on viewing consoles located in a quiet, air conditioned, sound proofed room. The operator enters the code into a keyboard identical to that of the PIM, and the letter is indexed in the transporter. But whereas all the mail is mixed when leaving the PIM, the SIVIC, like the LIPAP, allows a presort in several directions. It thus becomes possible to immediately separate

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(1) In France, the directional word is the last word designating a public road. For a letter addressed "avenue du General de Gaulle" the directional word is Gaulle and the operator keys GAU.

the mail which must remain in the region, from that which must leave and thus be given priority. And finally, handling is simplified since mail inputs and outputs are concentrated in a single machine, while the PIM machines must be fed individually.

SIRCA

But the technical specialists of the DGP, in close collaboration with several manufacturers, are preparing a new tool, SIRCA, which combines the functions of the SIVIC and the LIPAP. The inconvenience of the latter equipment is that the optical readable mail must be separated from the mail which cannot be read optically. The SIRCA accepts all mail. An attempt at optical reading is made: if it is successful, the letter is indexed; if it fails, the image of the address is sent to the visualization console to an operator. And according to Mr Jeanjean:

"This is probably the future."

The indexed mail is then sent to the sorting machine, which will the subject of a future article.

Briefly described, this is the handling of mail in routing indexing. From the automatic box unloader, the letters are sent to the supply hopper before being individually inserted between the pinched belts. The letters first pass in front of two reading heads: the first locates a line in the address (the last in our case), and the second obtains a video image of this line. This image is transferred to the character recognition unit, which identifies the characters by comparing them to references. The handling rate exceeds 2000 comparaisons per second. The postal code read is verified by comparing it to the postal code directory stored in the address memory unit. The information redudancy provided by the name of the distributing office makes it possible to determine the destination with greater certitude. This identification performed, the letters pass through the indexing module at a rate of 5 meters/second. The fluorescent ink-jet indexing system consists of a nozzle which sprays electrified droplets according to a geometry determined by the motion of the letters. Another reading head controls the conformance of the indexing with the given instructions, before the letters continue their flow and are sorted in the output stackers as a function of the chosen sorting plan.

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TELECOMMUNICATIONS MINISTER PROPOSES FREQUENCY PLAN FOR PRIVATE RADIO AND TV

Rome L'UNITA in Italian 24 Jun 77 p 4

[Text] Recently, the Hon Vittorino Colombo, Post and Telecommunications Minister, in the Catholic press and in the press of his own party, has solidified his position on the matter of the organization of private radio and TV broadcasting service. The new "frequency plan" would assign one-fourth of the frequencies available for radio broadcasting exclusively to the private service.

These articles give the impression that someone is trying to present as an accomplished fact the ideas proposed by Minister Colombo in the first declarations he made when assuming the direction of the PPTT (Ministry of Post and Telecommunications) after Constitutional Court Ruling No 202 of July 1976. Repeated allegations in these declarations were essentially of two sorts: affirmation that state control of the private radio and TV broadcasting network will be built up, and offering the private service, exclusively, 25 percent of the frequencies allocated to radio broadcasting by international regulations. The minister, in order to demonstrate the "objectivity" of these premises, made ample use of technical arguments, confusing and incomprehensible for most people. They were accompanied by practical initiatives, both in "commission" and "omission," which were aimed at setting up situations which would constrain the will of parliament.

In addition, it is said that the RAI (National Italian Radio) has recently been requested to adapt the plans of the public service television networks to these constraints. More precisely, the RAI would utilize for the remainder of network No II and for TV network No III only 30 of the 49 channels in the VHF band allocated to television broadcasting; from this, one can infer that 13 consecutive TV channels of the VHF band (from the 53d to the 66th) will be allocated exclusively to the private service.

Alternative Networks

The effects of such a decision are sufficiently clear: it would be possible to create one or more alternative national networks parallel to the public

ones, and the coverage of the latter would be drastically reduced, probably to the area serviced by each local transmitter. The decision mentioned goes far beyond that that was prescribed by the law and the rulings of the Constitutional Court.

As a matter of fact, the Constitutional Court rulings indicate clearly that the development of the public service has priority over the others. Limiting its zone of operation would reduce, in an irreversible manner, its potential for medium- to long-term development and jeopardize the possibility of maintaining the current "average quality" of the service. The assertion of the priority of the public service through the assignment of 30 channels to it, in contrast to 13 exclusively for the private service, is nothing but a way out without real advantage. As a matter of fact, the public service should utilize the 30 channels to extend its two networks (No II and, in due time, No III) to be accessible to the maximum possible percentage of the population (98-99 percent). In contrast, the private service talks of servicing areas of high urban population (centers with more than 100,000 inhabitants) only, which certainly do not represent more than 20 percent of the national territory. Allocating 13 channels to 20 percent of the territory is equivalent to giving 65 of them to the whole territory, which is a capability decidedly above that attributed to the public service. The line of reasoning which emerges from the repeated declarations of the minister is not only in conflict with the spirit, but also with the letter of the rulings of the Constitutional Court. They do not foresee the exclusive assignment of "zones of operation" from the public service to private local transmitters and repeaters of foreign TV stations. (In fact, Ruling No 225/'74 of the Constitutional Court based the illegality of prohibiting the repetition of foreign signals on the assumption that such installations would have to make use of frequencies "different from those allocated to radio broadcasting in Italy." And Ruling No 202/'76, in turn, based the illegality of prohibiting private local transmissions on the assumptions that at the local level the availability of channels would be practically unlimited.)

As regards the distribution of the 13 private channels between local transmitters and repeaters of foreign TV which the minister would like to finalize in the proportion of two-thirds to one-third, respectively, the advantage in numbers given to the local transmitters is more apparent than real, as not more than two or three channels definitely available in all areas of the country are sufficient to set up nationwide networks parallel to the public service. In addition, such transmitters would be of high power, as they are not subject to the limitations applicable to local ones, and would "suffocate" the private local service, as has been amply verified in various cities.

We do not have here a matter of intentions or an abstract hypothesis: an eloquent confirmation comes from ANTI [National Private Radio and TV Broadcasting Network]. This is the network which organizes commercial

radio and TV broadcasts on the local scene. Very recently, it has accused Minister Colombo of favoring through his positions the "oligopolistic" concentration process currently in progress on a national scale in this sector, with the attendant disruptions of the private service.

External Support

So far, we have described the meaning of the minister's proposals. Now, it is also legitimate to ask whether the technical assessment work required to define the proposal of the Hon Vittorino Colombo has all come from the ministerial offices, or if substantial support has not come from outside. In fact, whoever looks or has looked for general or special information on the operation of the radio and TV broadcasting networks knows that the highest authority on this matter is the RAI. As the concession holder of the public service, the RAI has always been involved in management of the frequency spectrum and, until 1975, had to conduct this activity exclusively by legislative decree and with the most complete political coverage. The RAI is, therefore, the only organization in Italy to have accumulated during past years the data and knowledge indispensable today to "policymakers" in this area. Is it possible that the minister has not yielded to the temptation of making use of the well-lubricated channels which have for a long time connected the administration with the technical sector of the RAI taking into account also the fact that this sector is tightly controlled by the DC (Christian Democratic Party)? It is the responsibility of the directive bodies of the RAI (Management Board, President, General Manager) to eliminate such doubts for their own and public opinion's sake. As a matter of fact, if they were founded we would be faced once more with a grave case of arrogant misuse of power: on the one hand, we would have a public entity which helps a minister to achieve political objectives (if not outright personal ones), and on the other hand, the public entity would be in a situation (anomalous for any enterprise) where it would be fostering internal elements which are playing the game of its competitors.

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